

The Examiner rejected claims 10 and 5-8 under 35 U.S.C §112, first paragraph. It was requested that basis in the original specification be identified for the language in Claim 10, line 18, "complimentary to the first area". In this regard, applicant submits that basis is provided in the original specification at page 3, lines 19-27, particularly lines 26-27. Likewise, basis is provided in the original specification at page 9, lines 5-13, particularly lines 11-13. In both paragraphs, it is made clear that vacuums for some of the suction chambers are developed later relative to an earlier vacuum and that, as a consequence, the glass sheet is attracted against these shaping surfaces so that a different area than the central area of the glass sheet is bent or shaped complementarily to the shaping surface areas. That is, vacuums are developed successively so that suction chambers successively attract different areas of the sheet of glass, but ultimately the sheet of glass is shaped in all areas complimentary to the other areas. It is submitted that there is clear basis for the indicated language. The rejection should be withdrawn.

The Examiner rejected claims 5-6 under 35 U.S.C §112, second paragraph as being indefinite. The items identified by the Examiner have been considered and claim 5 has been appropriately amended.

The Examiner rejected claims 10 and 5-8 under 35 U.S.C §103(a) as being obvious on consideration of Seymour in view of McMaster. The rejection is respectfully traversed.

Seymour discloses in Figs. 13-28 and accompanying discussion glass forming mechanism which includes lifting of a sheet of glass using a vacuum such that a portion of the glass is shaped by a shaping block which also includes vacuum. The sheet of glass thereafter, however, is dropped onto a shaping mold such that the impact of the fall causes the glass sheet to bend to the curvature defined by the shaping mold.

McMaster teaches forming of glass sheets by engaging them with molds both beneath and above the glass sheet.

Claim 10 makes it clear that a first area of the sheet of glass is first shaped and then a second area of the sheet of glass is later shaped so as to be complimentary to the first area. Thereafter, the sheet of glass is released from the first and second shaping surface areas onto a quenching ring and moved to quenching without further alteration. In contrast, Seymour provides for some bending of the sheet of glass as the sheet of glass is drawn by the vacuum. The sheet of glass, however, is subsequently dropped onto a shaping mold which causes the final shaping of the glass sheet. McMaster teaches shaping using molds from beneath and above the glass sheet, so it cannot be read with Seymour to logically derive the process of claim 10. The process of claim 10 has nontrivial advantage in that shaping takes place in a controlled fashion without bubbles forming due to the sides of the glass being compressed against a mold and in that dropping is not required thereby avoiding a possible breakage situation. Thus, claim 10 is not only distinguished by the references, but leads to non-trivial advantage. Claim 10 is nonobvious over the references.

The Examiner rejected claims 10 and 5-8 under 35 U.S.C §103(a) as being obvious on consideration of Seymour in view of Kuster. Applicant respectfully traverses this rejection also.

Kuster teaches the use of an annular frame to press a sheet of glass against a solid surface curving form and then using hot gas to force the sheet of glass against the form. Kuster does not teach the part of the process of claim 10 which distinguishes claim 10 from Seymour. Consequently, claim 10 is also nonobvious.

Claims 5--8 depend from claim 10 and add further novel limitations. Applicant does not acquiesce in the rejection of these claims. It is unnecessary, however, at this time, to further distinguish these claims.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration and reexamination of the application are requested. Allowance of claims 10 and 5-8 at an early date is solicited.

Respectfully Submitted,

Tetsuya Mizusugi et. al.

By their attorneys,

Merchant, Gould, Smith, Edell,
Welter & Schmidt, P.A.
3100 Norwest Center
90 South Seventh Street
Minneapolis, MN 55402-4131
(612) 332-5300

Dated: April 30, 1998

By Curtis B. Hamre
Curtis B. Hamre
Reg. No. 29,165